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GOOD GOODS
From GOSHEN

LIGHTNING
RODS

GOSHEN LIGHTNING ROD CO.
GOSHEN-INDIANA, U. S. A.





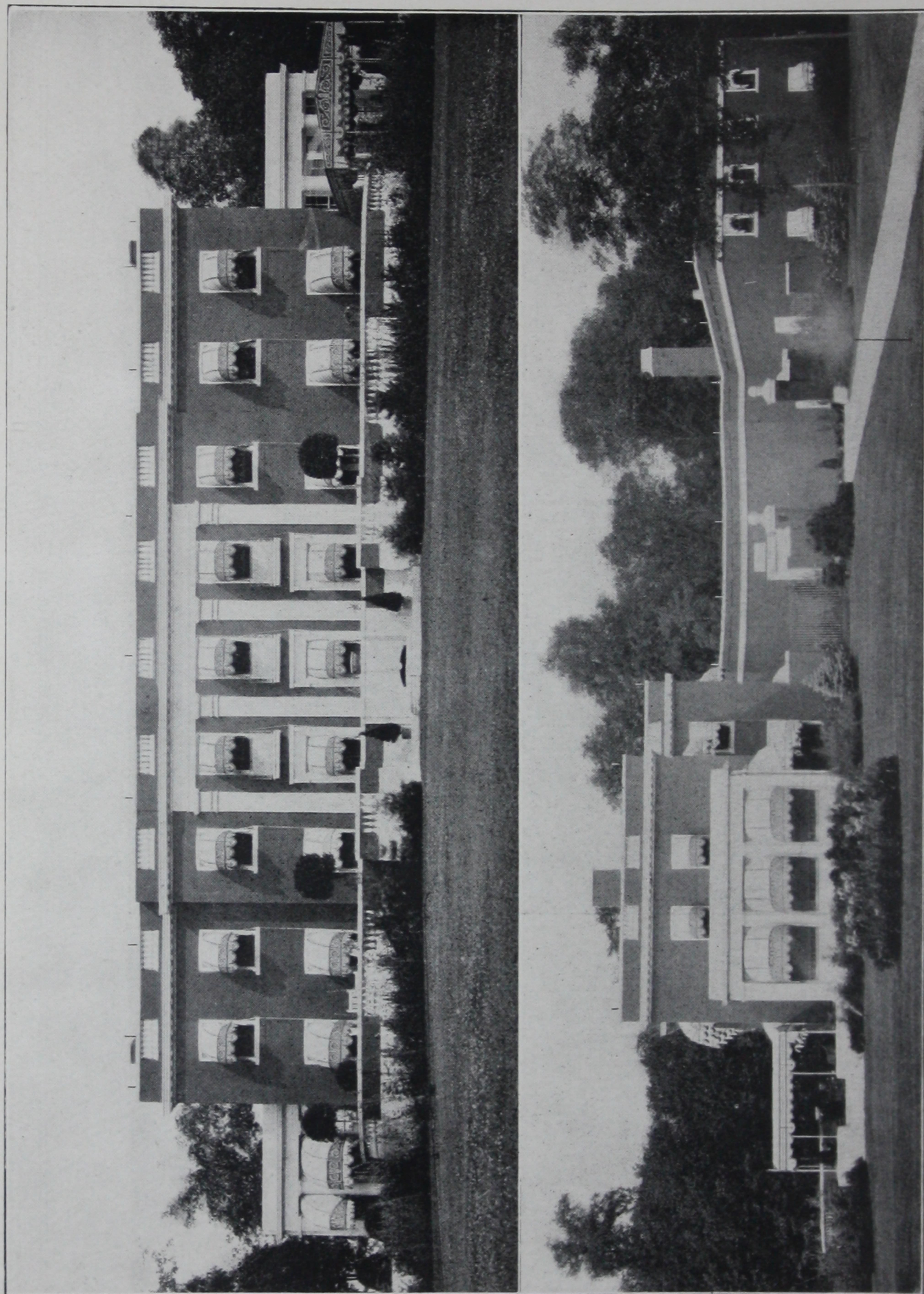


The GOSHEN LIGHTNING ROD COMPANY



GOSHEN, INDIANA
U. S. A.

CATALOG NO. 15



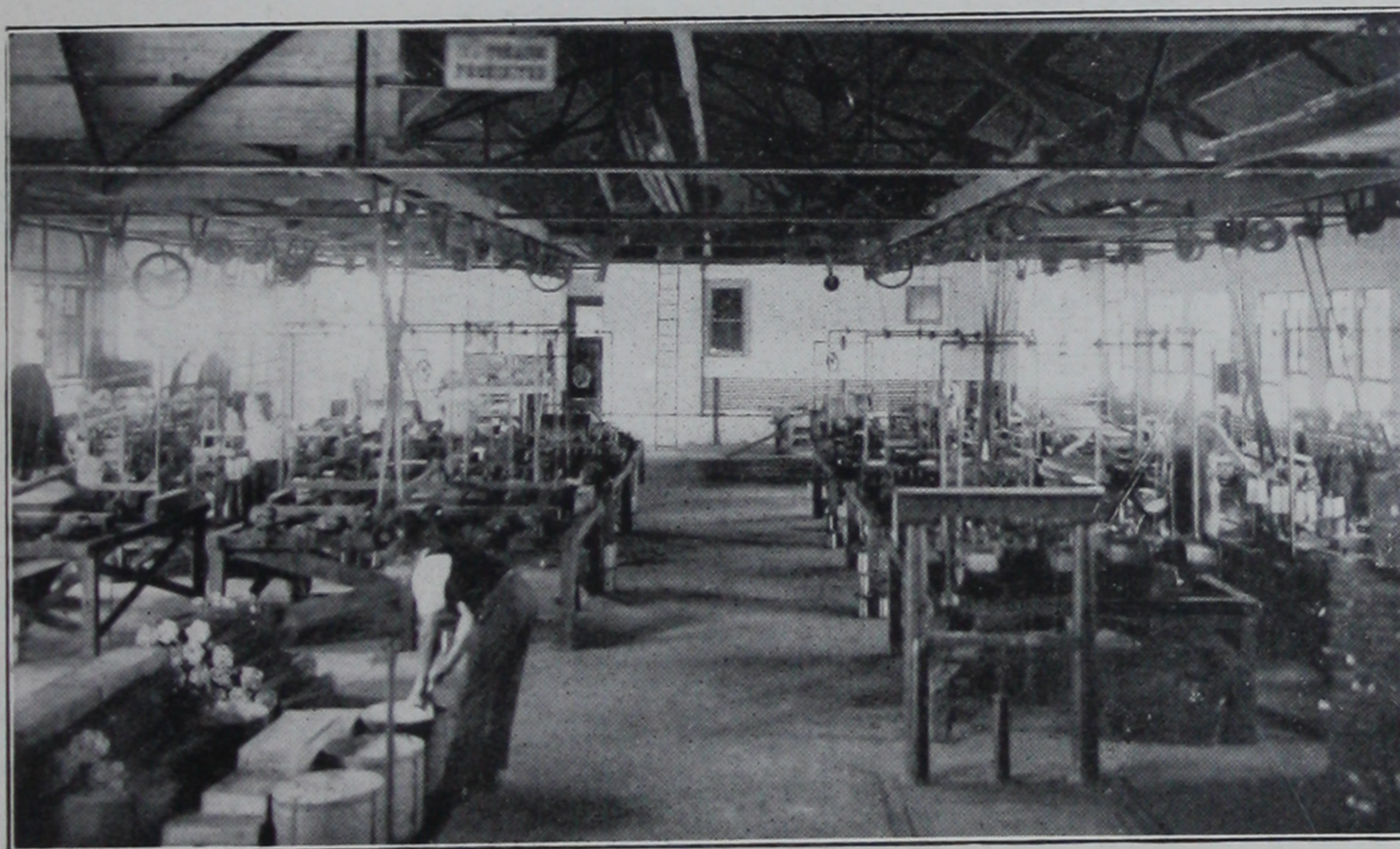
Two views of the residential mansion of Mr. Albert Russell Erskine, Twyckenham Park, South Bend, Indiana. This beautiful home is protected against lightning by our No. 14 Heavy Duty Cable. Mr. Erskine as President of the Studebaker Corporation is a discriminating buyer, so of course GOSHEN quality won out over all competitors.

Facts About Our Factory

IN order that many of our friends who have not had an opportunity to visit our plant may better understand why we claim to be the "largest copper cable lightning rod factory in the world" we wish to say a few words here regarding our factory.

In the first place we make only pure copper cable lightning rods, and by thus concentrating our efforts on one product we are able to produce a much larger output than we could by dividing our efforts and making cheaper and inferior grades.

We have seven cabling machines, capable of turning out 30,000 feet of cable in ten hours if operated to capacity. The individual wires in

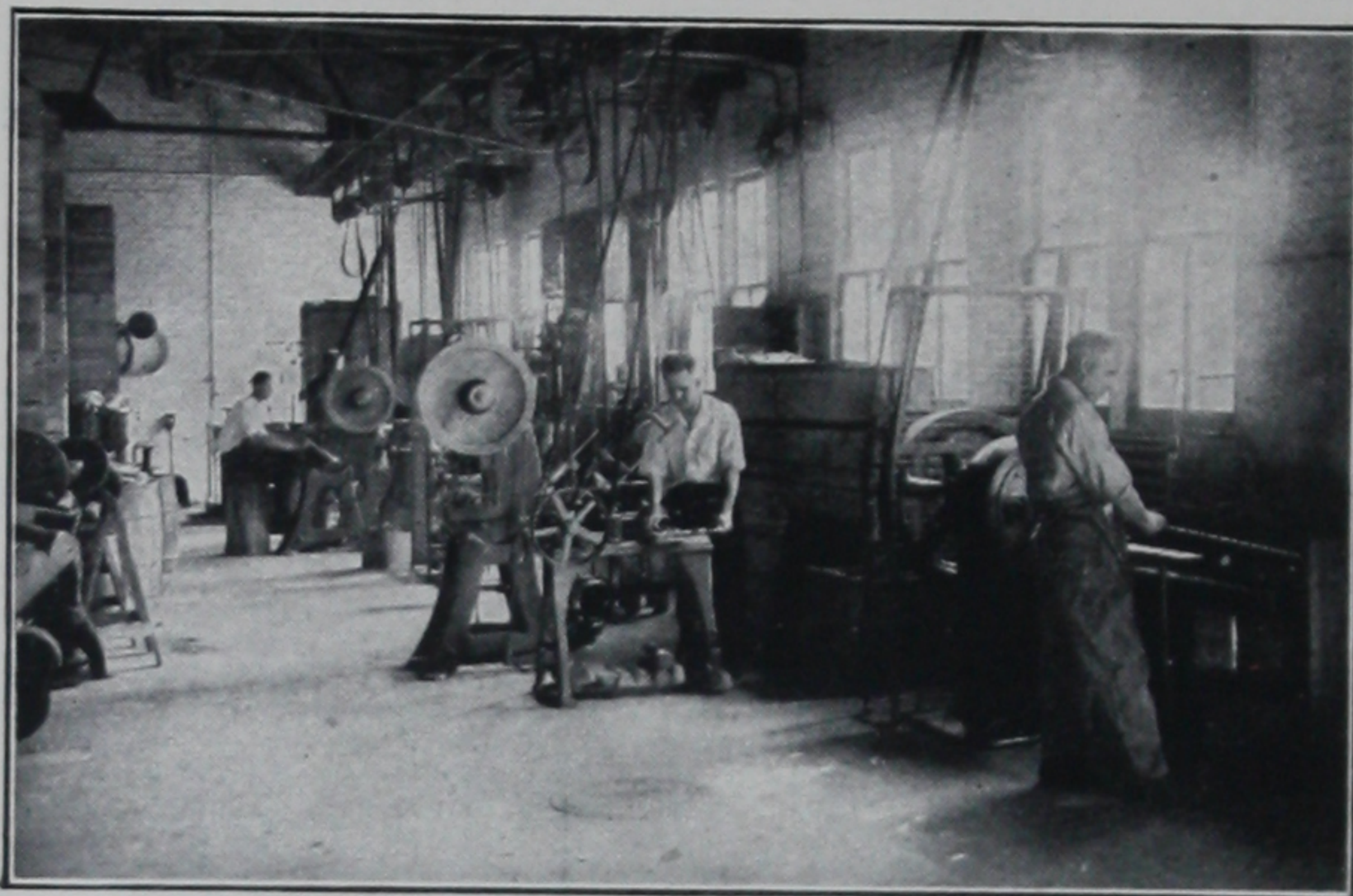


this amount of cable, if placed end to end, would reach over 200 miles. In a year at full capacity the wires in our output of cable would make a single wire over 60,000 miles long and would reach nearly three times around the earth!

This cable is made in twenty-five sizes, four different designs and from three different gauges of wire. However, the high quality is maintained throughout and the same grade of 99% pure Lake Superior copper is used in every cable we make, from the smallest to the largest.

Naturally, such an output of cable requires an enormous quantity of fixtures. Since we manufacture all of the accessories used in connection with our cable, a considerable portion of our plant is devoted to this end of the business.

Four kinds of points, two styles of braces in any length, two sizes of arrow and animal vanes in various styles of finish, pressed copper cable splicers, pressed copper T burrs in three styles, three sizes of cop-

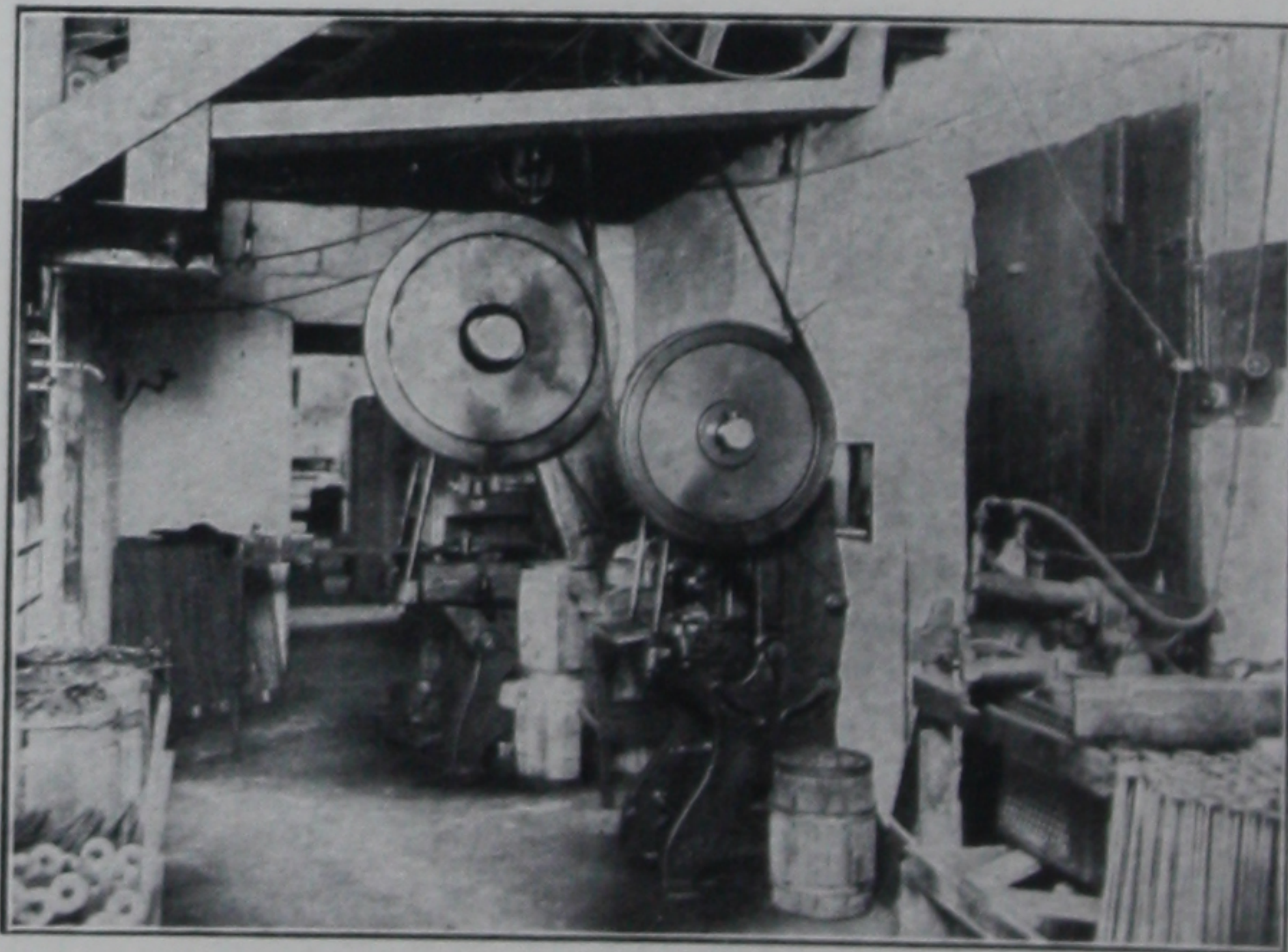


per cleats, aluminum and copper extension brackets, solid brass cable anchors—in fact the complete line of fixtures, require no small amount of machinery, time and materials.

Our equipment, however, is more than equal to the demands made on it, and is such as to

turn out in each case the very best article to be had.

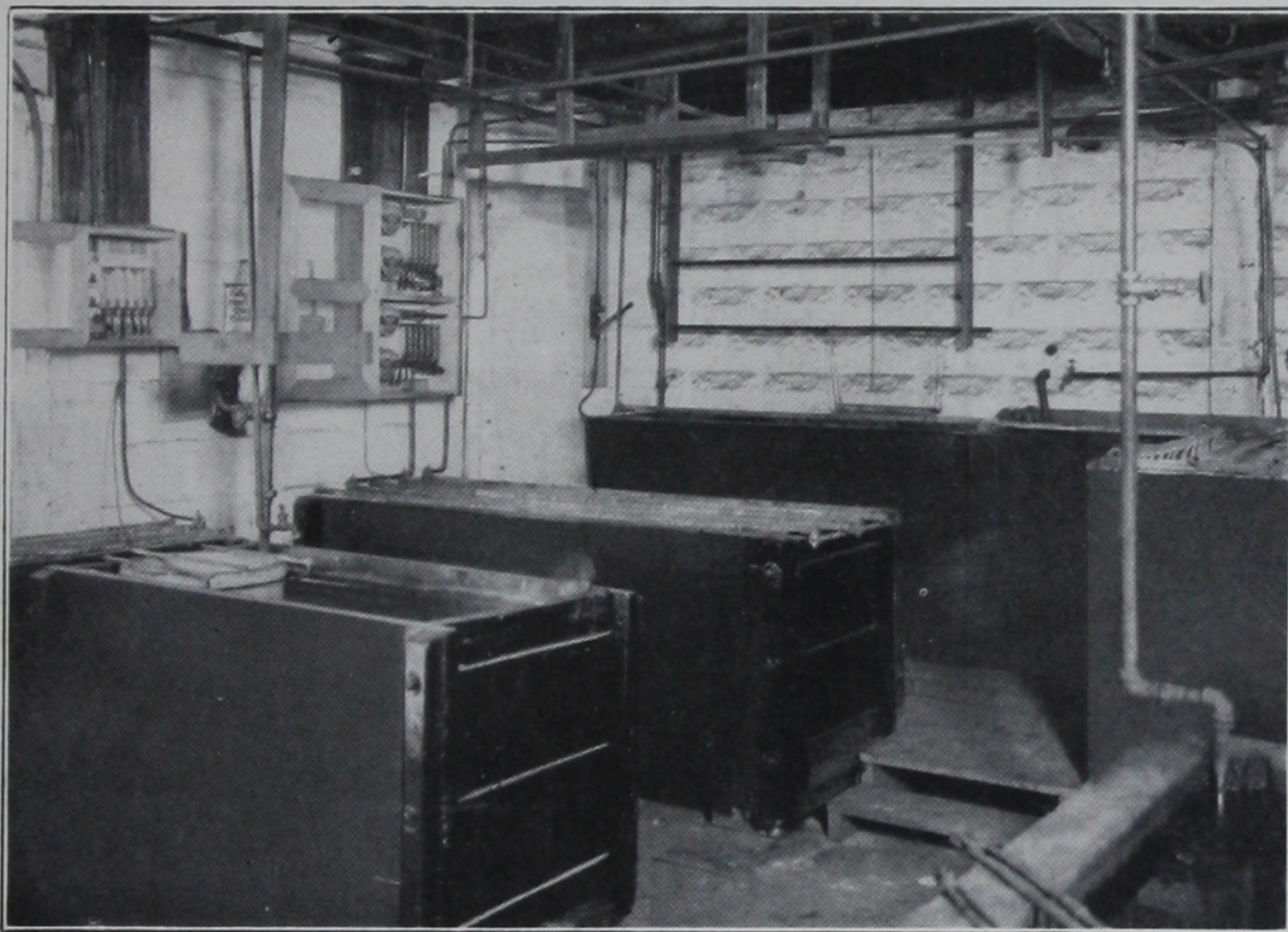
Our factory operates the year round. We are making cable, points and braces all winter long, when most other lightning rod plants are closed. Our employees have all been with us a long time, some as long as ten years. Naturally, each knows his particular work thoroughly, and his skill, coupled with our specially designed machinery makes for a degree of efficiency and quantity production which cannot be equalled. The benefits of our reduced cost of production are given our dealers in our fair prices.



Our Electro-Plating Department

OUR business in fixtures and accessories became so large that the matter of getting prompt and efficient plating service became increasingly difficult. We finally decided that in order to give our dealers the best possible service it would be necessary for us to install our own electroplating plant.

We take pleasure in announcing this feature as additional evidence



that ours is the most complete and up-to-date lightning rod factory in existence.

By means of our plating department we are able to offer the very best in points, braces or any other fixture which should be plated. The department is in charge of an experienced plater and we know our work can not be excelled anywhere. All orders, from the largest to the smallest, can be filled promptly and efficiently, because we do not need to depend on outside sources for our plating work, and all delays are thus avoided.

In line with our policy to furnish at all times the maximum of service for the minimum of cost, no extra charge has been added to any of our fixtures, although the quality of the work has been greatly improved.

—THE GOSHEN LIGHTNING ROD CO.—

Made Right—Packed Right

THIS reproduction of an actual photograph shows a GOSHEN cable outfit packed and ready for shipment. We pride ourselves first upon the thoroughness with which our goods are made, and second upon the manner in which they are packed. Please notice that everything is crated or boxed, nothing is loose or merely bundled, and that



even the cable is wrapped with waterproofed burlap to prevent its being marred in shipment.

This means that GOSHEN goods reach you in perfect condition, not even scratched by the roughest handling. This is just one of the many sides of our service to dealers, and will be appreciated by those who have in times past received poorly packed shipments from other firms, and know the annoyance of trying to sell goods which show the effects of freight transit.

The picture below shows a section of our crating room.



—GOOD GOODS FROM GOSHEN—

“Hoovens Pride” Smooth Twist Cable



Made from 99% pure Lake Superior copper in the following sizes:

Size Number	Approx. Diam.	Approx. Weight	No. of Wires	Gauge Number
0	$\frac{3}{8}$	157	30	18
8	$\frac{3}{8}$	165	32	18
9	$\frac{7}{16}$	188	36	18
10	$\frac{15}{32}$	211	40	18
*11	$\frac{7}{16}$	213	32	17
*12	$\frac{1}{2}$	248	36	17
*13	$\frac{9}{16}$	282	40	17
*13 $\frac{1}{2}$	$\frac{19}{32}$	300	42	17
*17	$\frac{7}{16}$	200	30	17

Loose Twist Cable



Made from 99% pure Lake Superior copper in the following sizes:

Size Number	Approx. Diam.	Approx. Weight	No. of Wires	Gauge Number
$\frac{1}{2}$	$\frac{3}{8}$	157	30	18
1	$\frac{3}{8}$	162	32	18
2	$\frac{7}{16}$	185	36	18
3	$\frac{15}{32}$	208	40	18
*5	$\frac{7}{16}$	207	32	17
*6	$\frac{1}{2}$	236	36	17
*7	$\frac{9}{16}$	275	40	17
*14	$\frac{5}{8}$	325	44	17
*18	$\frac{7}{16}$	200	30	17

NOTE: Cable sizes marked (*) are eligible to the label service of the Underwriter's Laboratories. This means that these cables are inspected and approved by them. Special fixtures are required for labeled outfits.

—THE GOSHEN LIGHTNING ROD CO.—

Smooth Twist Cables with Copper Ribbon Center



	Approx. Diam.	Approx. Wgt.	No. of Wires	Gauge No.
"Our Leader"	$\frac{1}{2}$	190	28	18
*"Our Leader XX"	$\frac{3}{8}$	225	26	17

Rope Cables

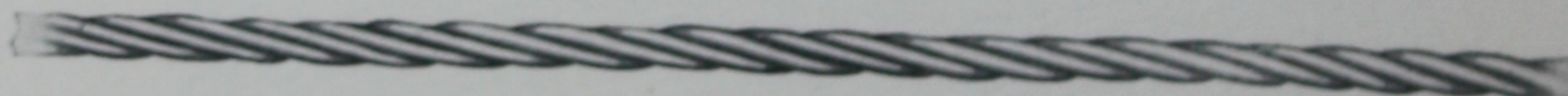


Twisted solid like a rope. No core. We list but one size, but can furnish this style of cable in almost any size.

*No. 19, approximate diameter, $\frac{1}{2}$ inches; approximate weight, 250 pounds; number of wires, 28; gauge number 15.

ANY STYLE OF SPECIAL CABLE CAN BE MADE TO ORDER.
SEND US YOUR REQUIREMENTS.

Connecting Cable and Radio Aerials



For connecting hay and door tracks as well as other metal bodies to main line of cable.* Also makes best radio aerial obtainable because of its large surface.

No. 30. Made from 4 wires No. 15 gauge.

No. 31. Made from 7 wires No. 17 gauge.

—GOOD GOODS FROM GOSHEN—

No. 51. Patented One-Piece Air Terminal.

This feature will be appreciated by dealers who want a solid air terminal with no loose parts. The point is a part of the tube, being swaged right on the end. The foot is tempered and flattened as shown in the cut and can be easily fitted to the cable. It is regularly furnished in 5-foot lengths, but can be supplied in any length desired. Made from extra heavy 20 gauge seamless material.



This illustration shows the foot of the Patented One-Piece Air Terminal (Catalog No. 51) after it has been fastened to the cable. The electrical contact is perfect and permanent.

—THE GOSHEN LIGHTNING ROD CO.—



A complete air terminal, (brace, Patent One-Piece Tube and Ball) mounted with a Four-ball Swinging Pendant. This is a beautiful ornament and can be furnished in the following colors:

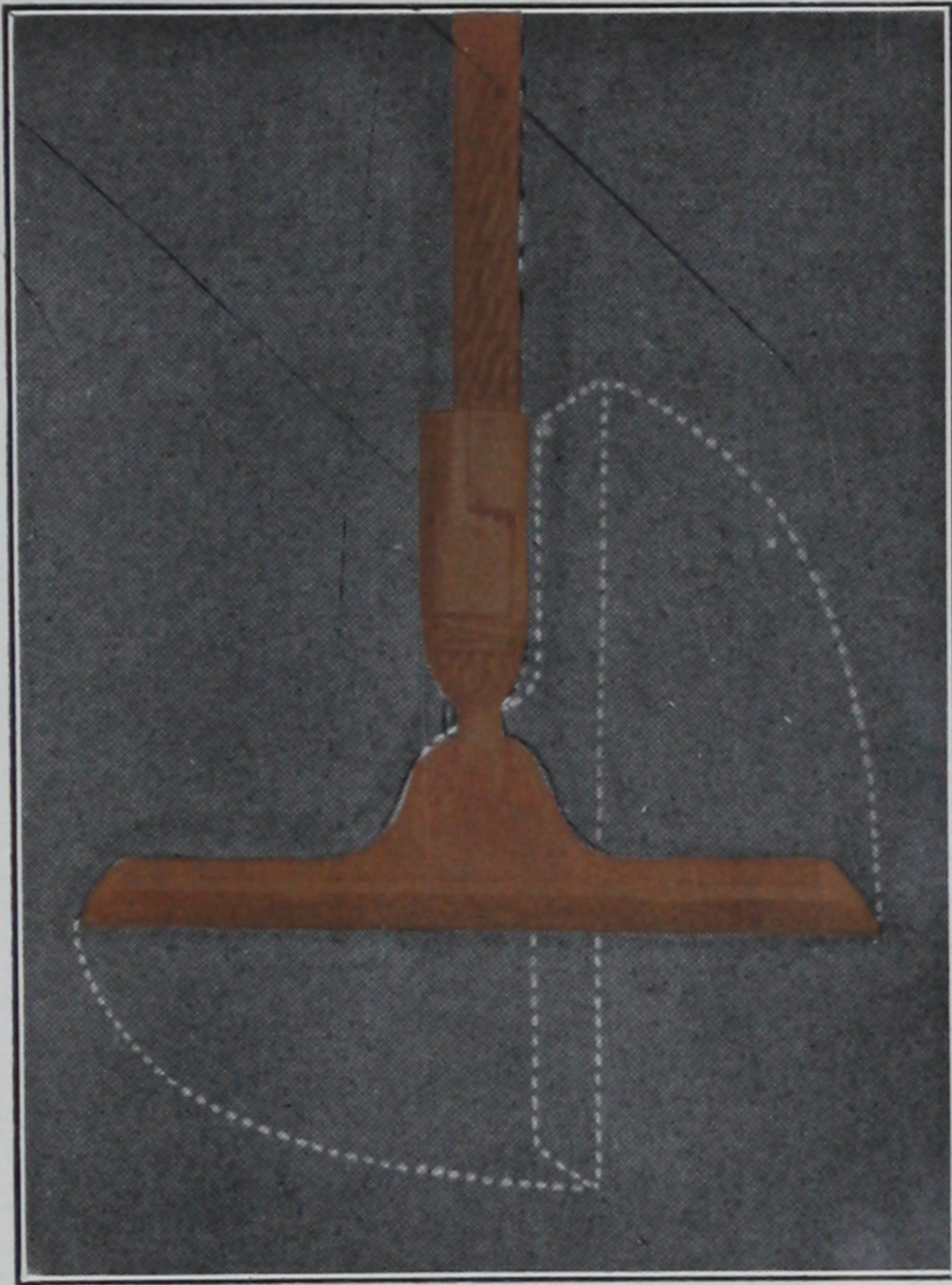
No. 53. Opal No. 55. Gold
 No. 54. Turquoise Blue No. 56. Silver
 No. 57. Transparent Ruby



No. 95. Tube Splicer.

For extending air terminals at chimneys. The inside diameter of the splicer is the same as the outside diameter of the tube. Note the groove in the middle, which prevents slipping.

Ground Terminal and Cable Anchor



Patent Applied for.

No. 52. Improved Cable Anchor.

Approved by Underwriters' Laboratories, Inc.

This device is being used with much success by our dealers everywhere. It is made of solid brass and will last forever. Easily put down, it doubles the efficiency of the ground contact, and prevents frost or live stock from loosening the cable. For detailed instructions see page 27.

—THE GOSHEN LIGHTNING ROD CO.—



No. 58. Point-on-Tube.

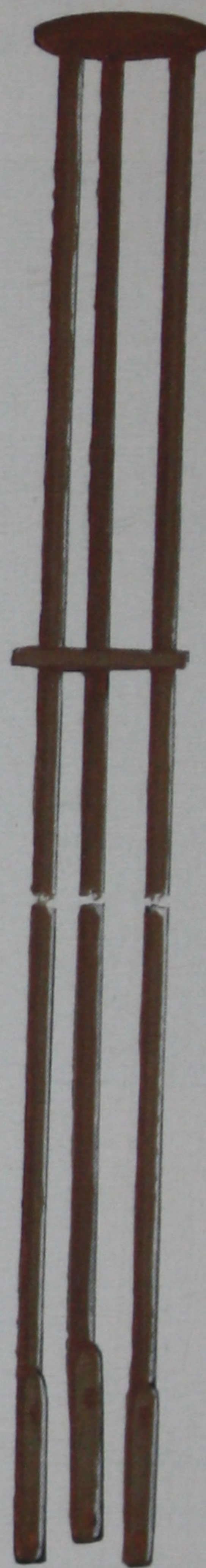
Point is swaged on tube but foot is open to be used with T burr. Made of 20 gauge seamless copper tubing and regularly furnished in 5-foot lengths.

No. 59. Plain 5 foot 20 gauge seamless copper tube. Without point.

No. 60. Washer Brace Stand.

Three legs, electrically welded, hot-dipped and copper plated. This coating of copper over the regular hot plate, makes a double plated brace, and, to the best of our knowledge, the only one of its kind on the market. Regular length, 38 inches. Special lengths made to order.

No. 61. Same as above but four legs.



—GOOD GOODS FROM GOSHEN—

4½-Inch Glass Ball Ornament.



GOSHEN design. Aluminum cap. Furnished in the following colors:

No. 76. Opal

No. 78. Transparent Blue

No. 77. Turquoise Blue

No. 79. Transparent Ruby

4½-Inch Glass Ball Ornament.



GOSHEN design. Aluminum cap.

No. 80. Gold

No. 81. Silver

—THE GOSHEN LIGHTNING ROD CO.—



No. 84. Copper Shell Point.

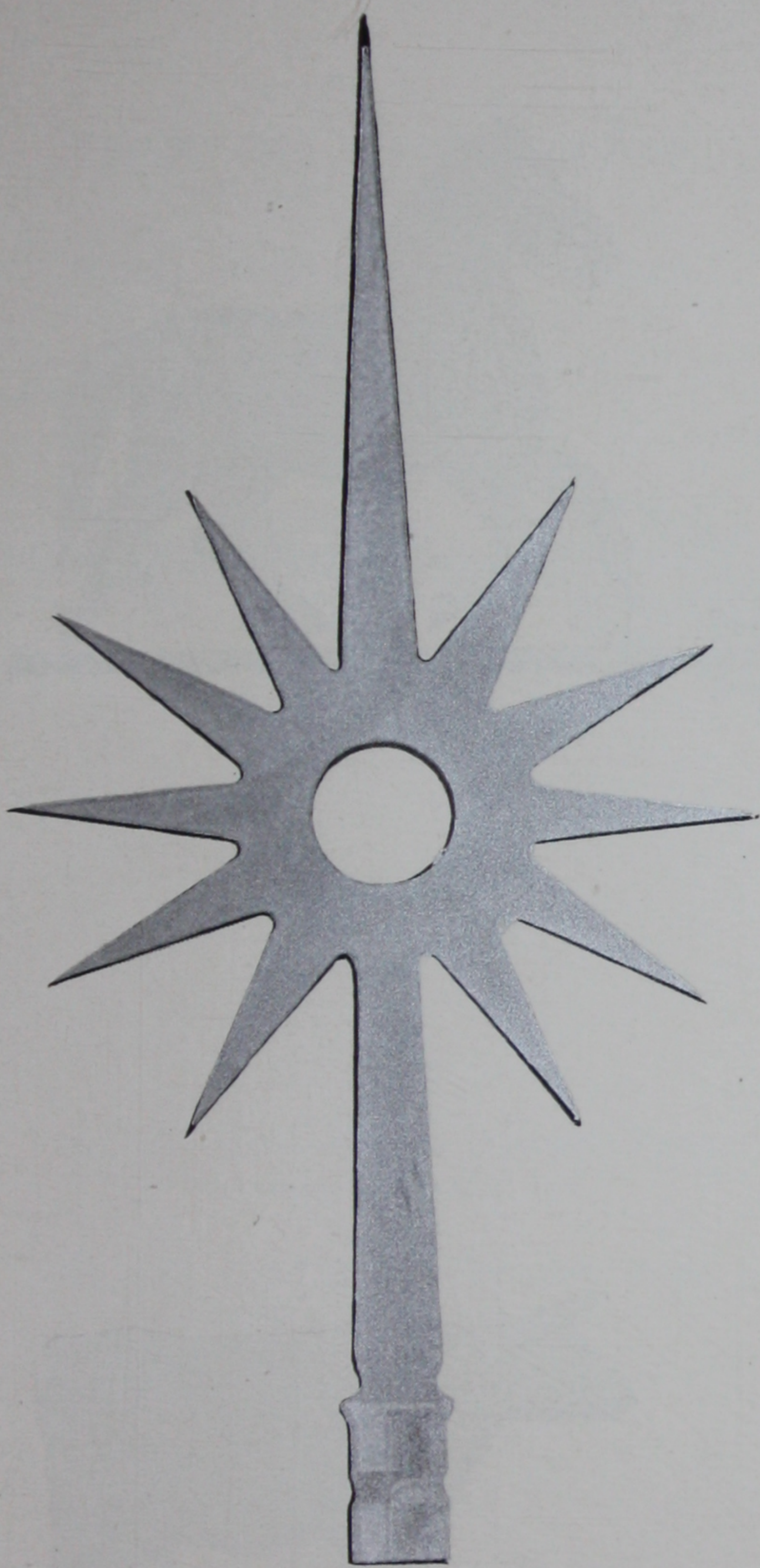
Swaged from seamless copper tubing, 7½ inches long. Regular finish, heavy nickel plate. Can be furnished with tip silver or gold plated, at extra cost.



No. 85. Solid Copper Bayonet Point.

Burnished and lacquered finish, or heavy nickel plate.

—GOOD GOODS FROM GOSHEN—



No. 86. Star Multiple Point.

Regular finish, nickel plate. Also furnished in copper, burnished and lacquered.



No. 87. Sun Multiple Point.

Copper, burnished and lacquered finish, or heavy nickel plate.

—THE GOSHEN LIGHTNING ROD CO.—

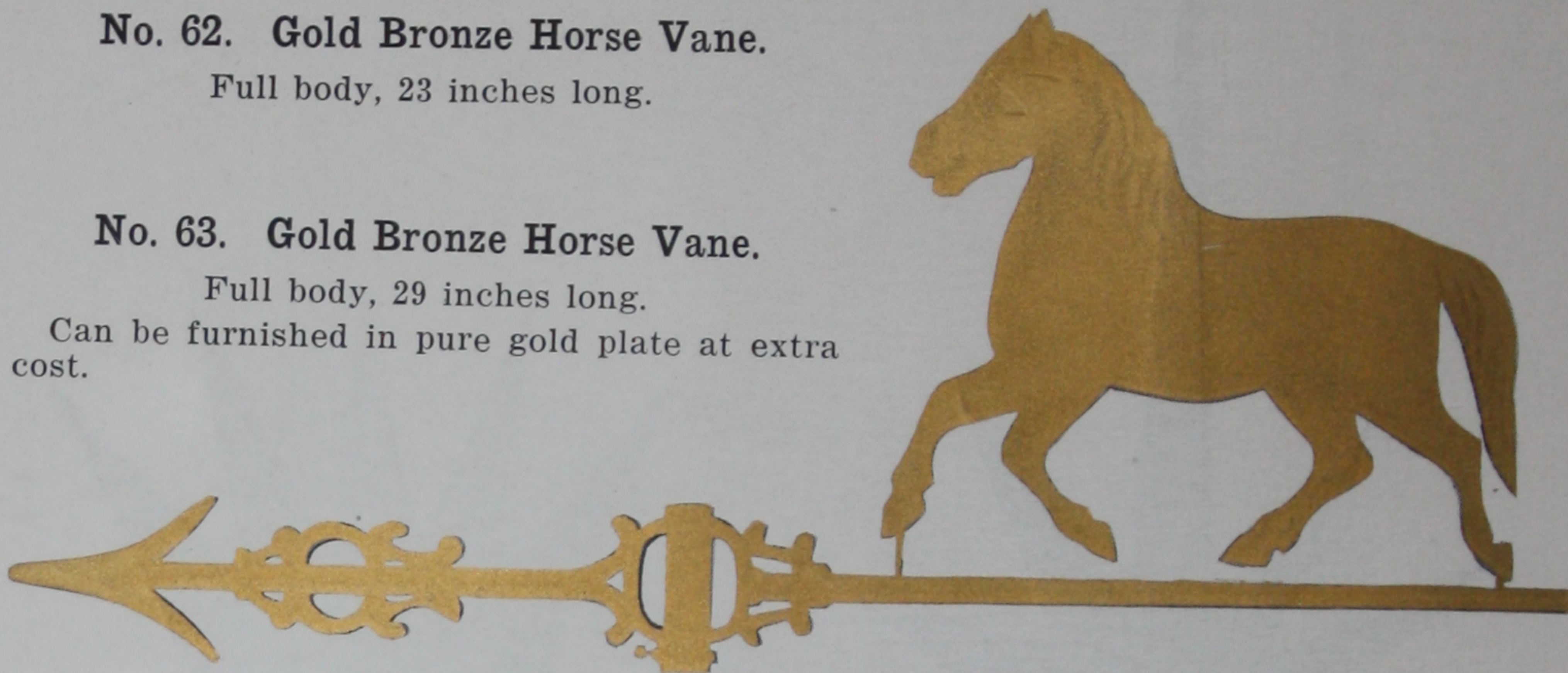
No. 62. Gold Bronze Horse Vane.

Full body, 23 inches long.

No. 63. Gold Bronze Horse Vane.

Full body, 29 inches long.

Can be furnished in pure gold plate at extra cost.



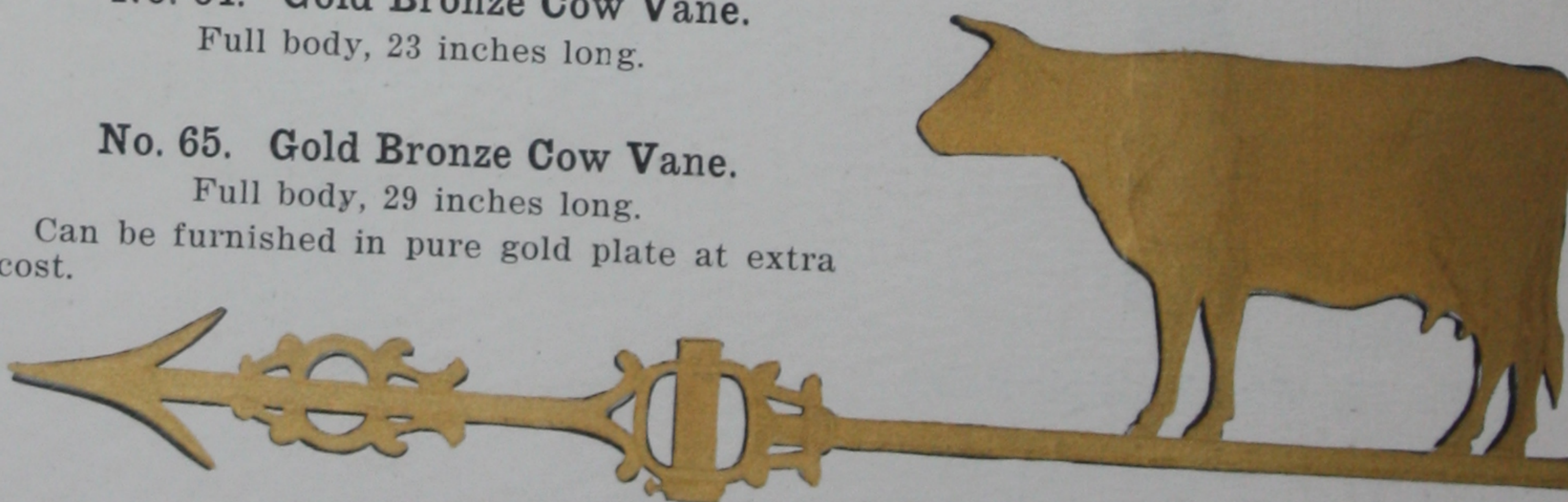
No. 64. Gold Bronze Cow Vane.

Full body, 23 inches long.

No. 65. Gold Bronze Cow Vane.

Full body, 29 inches long.

Can be furnished in pure gold plate at extra cost.



—GOOD GOODS FROM GOSHEN—

No. 64. Gold Bronze Sheep Vane.

Full body, 23 inches long.



No. 65. Gold Bronze Sheep Vane.

Full body, 29 inches long.

Can be furnished in pure gold plate at extra cost.



No. 70. Gold Bronze Rooster Vane.

Full body, 23 inches long.



No. 71. Gold Bronze Rooster Vane.

Full body, 29 inches long.

Can be furnished in pure gold plate at extra cost.



—THE GOSHEN LIGHTNING ROD CO.—

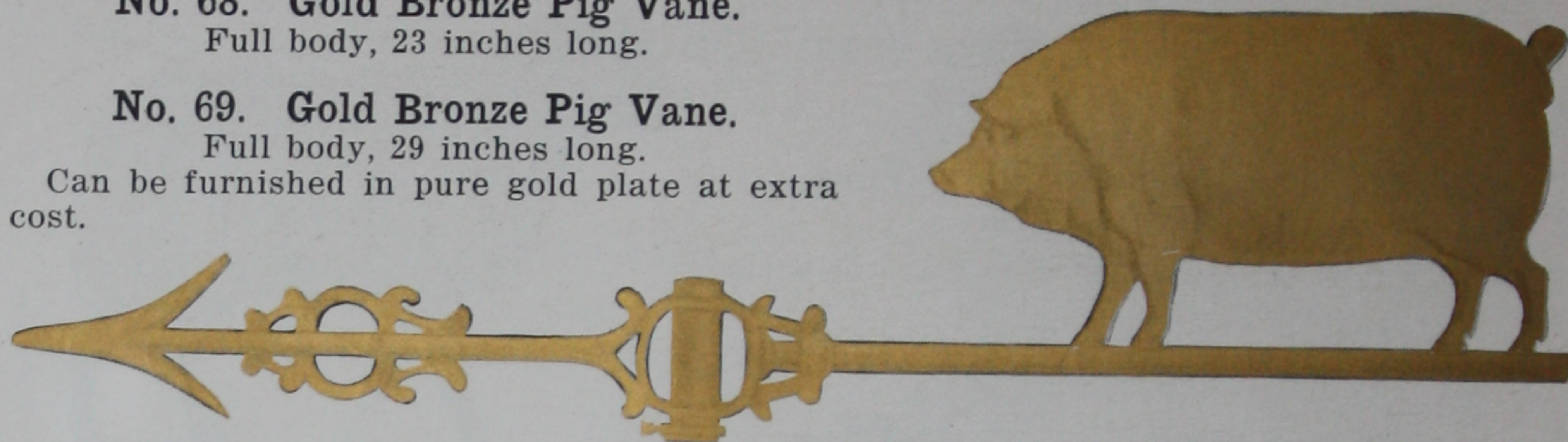
No. 68. Gold Bronze Pig Vane.

Full body, 23 inches long.

No. 69. Gold Bronze Pig Vane.

Full body, 29 inches long.

Can be furnished in pure gold plate at extra cost.



No. 72. Gold Bronze Automobile Vane.

Full body, 23 inches long.

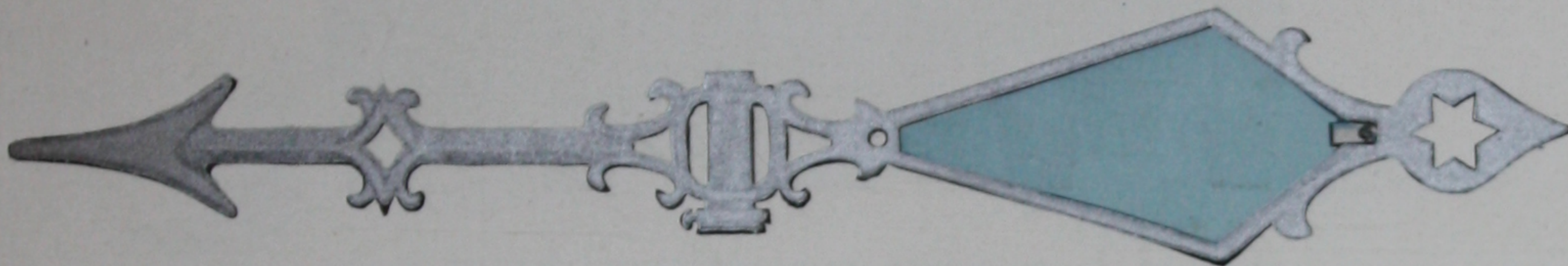
No. 73. Gold Bronze Automobile Vane.

Full body, 30 inches long.

Can be furnished in pure gold plate at extra cost.

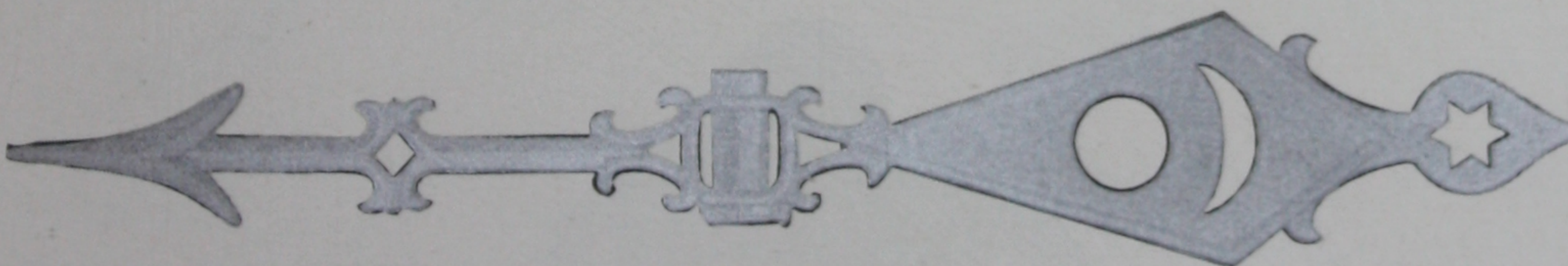
—GOOD GOODS FROM GOSHEN—

No. 74. Aluminum Diamond Glass Tail Arrow Vane.



Frame of solid aluminum. Glass tail comes in assorted colors.
23 inches long.

No. 75. All Aluminum Diamond Tail Arrow Vane.



“Constellation” tail. Entire vane cast from pure aluminum and
will last forever. 23 inches long.

—THE GOSHEN LIGHTNING ROD CO.—

No. 82. Straight Cable Splicer.



Pressed from heavy pure copper. Extra long.

No. 91. Pressed Copper T Burr.



To be used in fastening cable to open end tube uprights. Furnished in 3 sizes, small, medium and large, so as to fit tightly on all sizes of cable.

No. 83. T or Branch Cable Splicer.

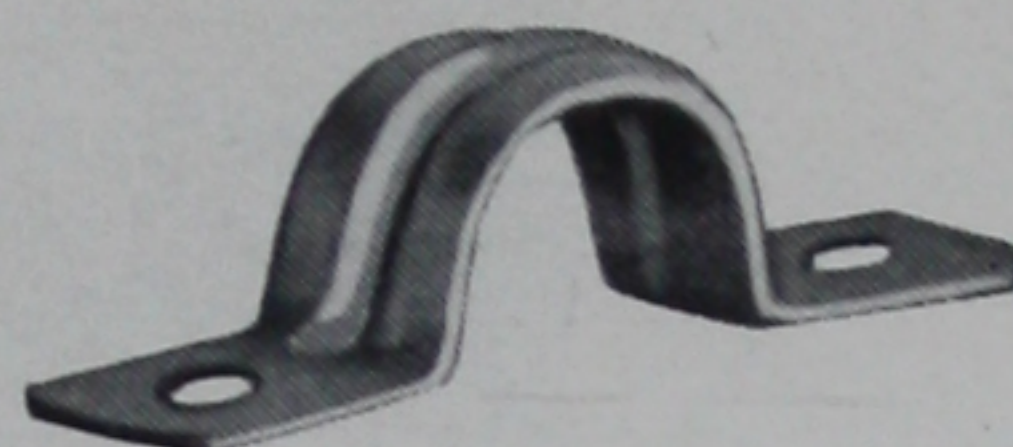


Pressed from heavy pure copper.

Pressed Copper Cleats.



Note the re-inforcing rib.
No. 88. Large size, $\frac{1}{2}$ inch.



No. 90. Small size, $\frac{3}{8}$ inch.

No. 89. (Not illustrated). Medium size, 5-16 inch.

Extension Brackets.



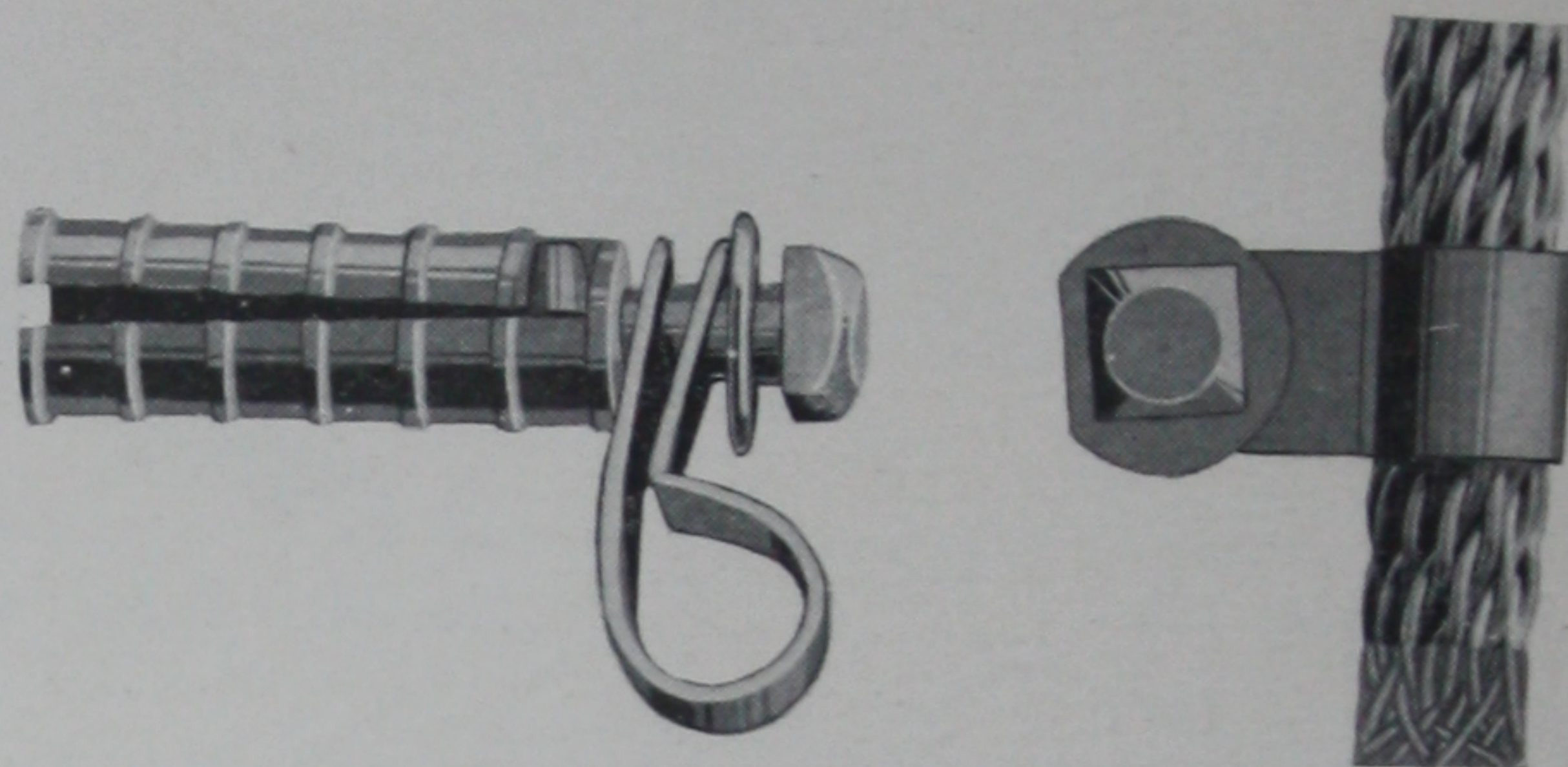
For holding cable away from building.

No. 92. Pressed from pure copper.



No. 93. Cast from pure aluminum.

Cable Fastener for Brick Walls



No. 94. "Holdfast."

A device for fastening cable to brick, stucco, tile, cement block or similar surfaces. Furnished complete with copper clip.

Dealers who have been up against the problem of keeping cable nicely stretched along brick or stucco walls, will find in this device the answer to their problem. A few minutes work with a stone drill and hammer and a hole is made between the bricks in the mortar, or directly in the stucco or tile. Insert the expanding shield, slip the clip over the cable and tighten the lag screw with a wrench. A permanent, attractive connection is the result. Can be furnished also with special large clip for fastening tube upright to chimneys.



These are reproductions of slides to be shown at motion picture theaters. We will be glad to furnish these to our dealers at their exact cost to us. Dealer's name will be stenciled in blank space at bottom of slide.



How To Order

IT is likely that you have sometimes felt that your orders were not filled quite as you had wanted and it is true that occasionally mistakes occur here at the factory.

But it has been our experience that most of the errors in shipments are occasioned by a failure on the part of the dealer to be explicit. The following suggestions may be of help to us both if they are followed when ordering:

1. Order by number. Do not say, "Send same as before." Each size of cable has a number, both on our price sheet and in this catalog. With each cable outfit we include 24 patent one-piece tubes, 24 double plated braces, 12 blue and 12 white balls, 2 animal vanes, 4 arrow vanes, 200 copper clips, 1 T and 1 straight splicer. This is a complete regular outfit, and will be furnished unless otherwise specified.

2. Be sure to specify any extras you may want. If, for instance, you use extension clips instead of regular clips, say so. If you prefer any other style of tube in place of our patent one-piece tube, be sure to mention that. All fixtures are numbered in our catalog. Do not take for granted that we know what you want. Be explicit.

3. State shipping point, if other than your post office, and tell us how you want goods shipped, whether by freight, express or mail.

If the above instructions are followed many mistakes will be avoided. Whenever we do make a mistake, tell us about it first. We will cheerfully make it right.

C. O. D.

Some of our dealers prefer to have us ship C. O. D., and in other cases it is sometimes necessary where the dealer has failed to establish a satisfactory credit rating with us. In all such cases, kindly give us the name of the bank at which you are known. The bill of lading with sight draft will then be sent to that place.

How to Open an Account with Us.

If you wish goods sent open account, and are not rated with any of the commercial agencies, please send name of your bank, together with any other references you may care to send. We shall be glad to extend credit where we can consistently do so and we ask your co-operation along this line.

An Appreciation

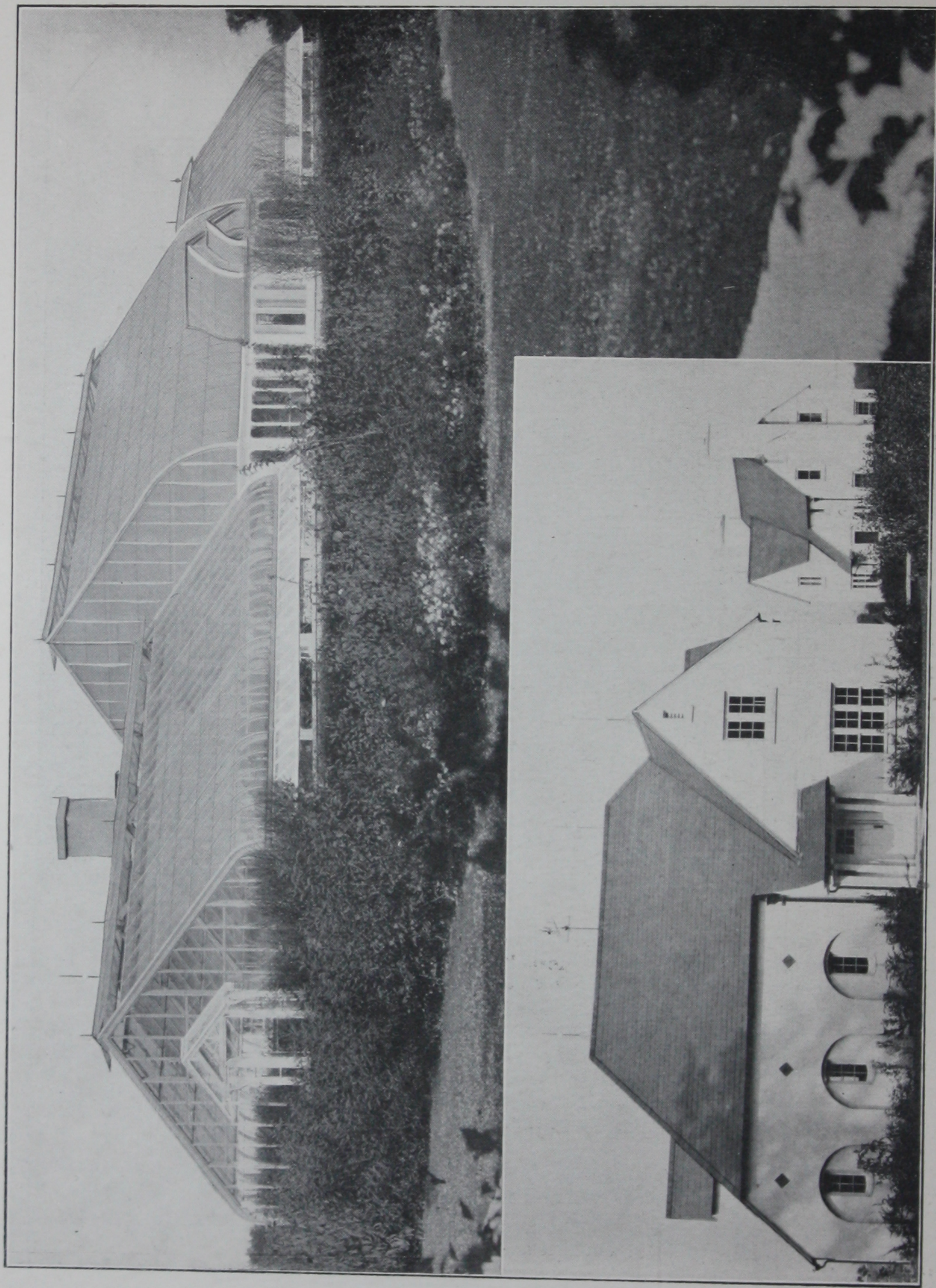
MR. A. G. HOOVENS, whose picture appears below, inaugurated the Goshen Lightning Rod Company fifteen years ago and has been intensely active as its head ever since. It has been through his untiring efforts that the business has grown from its humble beginning to its present status as the largest factory of its kind in the world.



Mr. Hoovens has not only been actively in charge of the production end, but has personally superintended all his sales campaigns. He is especially fitted for these two things. First, he is endowed with an unusual amount of mechanical ingenuity. This inventive ability is put to practical use in his factory, as he designs a special machine for each special work. He originated and built all the spooling, stranding and cabling machines in use in his factory, together with all the special dies for forming the fixtures. Each machine is constructed with a view to producing the largest possible output each day of the particular product for which it is designed. This reduces production cost, and the buyer gets the benefit.

Mr. Hoovens' sales experience, in charge of salesmen in large territories fitted him, moreover, for the work of selling his large output.

He is a public spirited citizen, a strong booster for his home town, and contributes freely to local charities.



Greenhouse and service buildings on the country estate of Mr. A. R. Erskine, Twyckenham Park, South Bend, Indiana, showing how our air terminals may be adapted to various types of buildings. In this manner full protection may be realized and yet nothing is detracted from the appearance of the finest building.

Instructions for Using Cable Anchor

If the following suggestions are followed it will be found easier to use the Improved Cable Anchor on all cable grounds, than to try to push the bare cable into the earth.

Take a ten-foot length of $\frac{7}{8}$ -inch round iron and weld a piece of pointed tool steel on the end, $1\frac{1}{4}$ inches in diameter. If tool steel is not available, have the blacksmith "stove" or batter the iron bar at one end until it is $1\frac{1}{4}$ inches in diameter. Then point it and harden it.

Punch or churn this into the earth. In sand or gravel soil it is the work of a few moments to do this. In clay or "hard pan" keep adding water as the rod is churned. Do not drive with a sledge. This is harder work, both to get the rod down, and to get it up again. The rod is always loose, when it is churned down.

After the hole is punched to the required depth, fasten the anchor to the cable by pounding the flanges of the hook piece over the cable, just as you would a splicer. Then insert one end of the anchor into a ten-foot length of $\frac{3}{8}$ -inch gas pipe. Keep it in position by holding the cable tight along side the gas pipe, and push the entire device, anchor, cable and pipe, down the hole. Pull up the gas pipe and the cable is anchored.

Some General Instructions

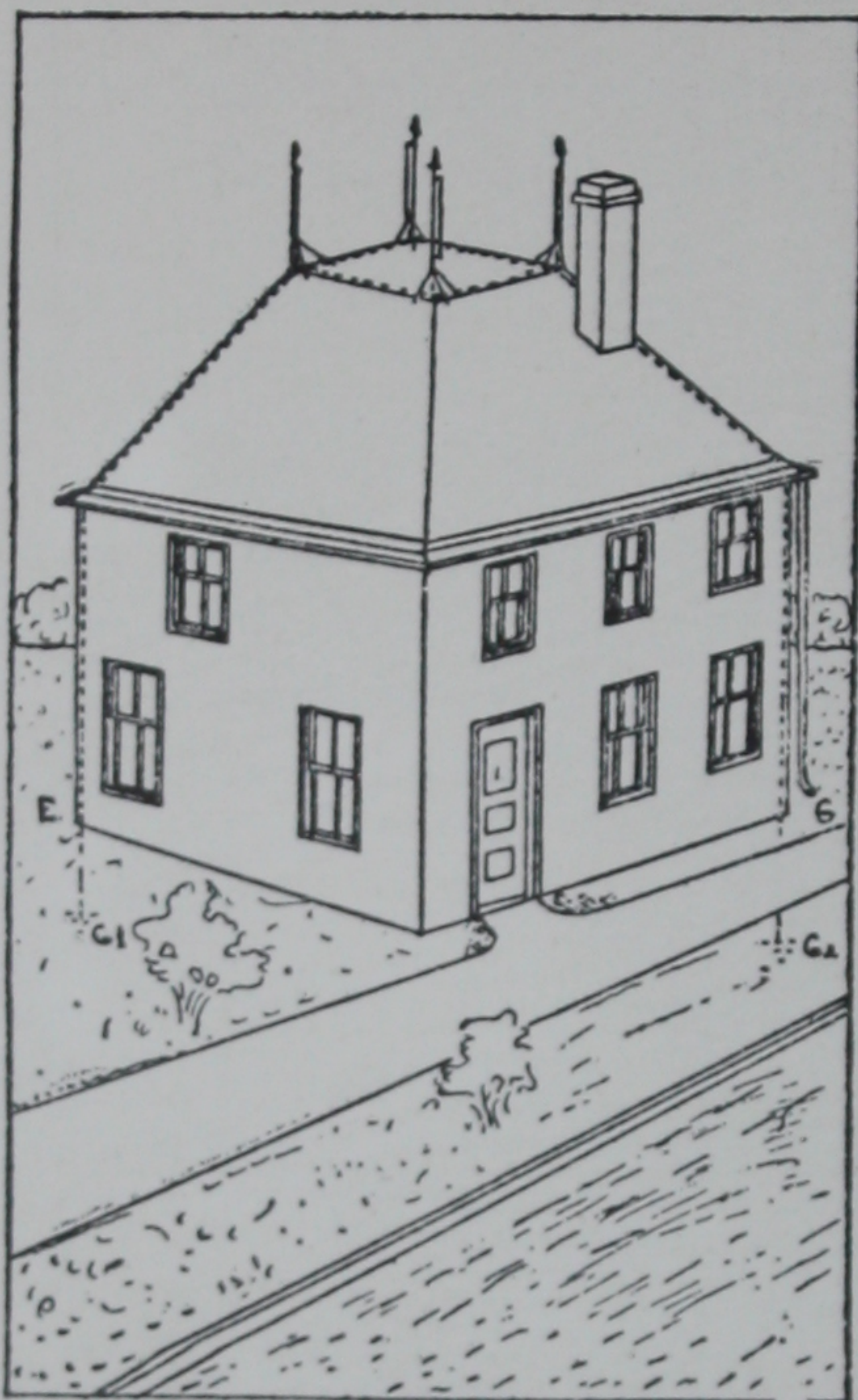


Fig. 1.

meet each other. The path of this simultaneous discharge is known as a lightning stroke, and often times a tree or building, by reason of its being a partial conductor, is chosen as a path.

This lightning discharge is prevented by properly installed lightning rods in this way: the charge in the earth follows the path of the copper lightning rod and passes off quietly into the positive charge in the air by which it is attracted. In other words, the two charges are "drained into each other" or neutralized by the high efficiency of the copper lightning rod.



Fig. 2.

IT is our purpose here to set forth some general principles of lightning protection as endorsed by the Underwriters' Laboratories and recommended by us. The illustrations on this and the following page are taken from the Underwriters' own book, and may therefore be considered authentic.

First of all, let us consider the cause of a lightning stroke. We all know that static electricity is in some way generated in the atmosphere. There are two forms of this static, positive and negative, the latter form being stored in the earth. During a storm period when a cloud which is heavily charged with positive approaches near the earth, a similar charge of negative gathers immediately under it. This is known as a "high potential." The two forces are attracted to each other and gather force until they are strong enough to break down the resistance of the air between them, and rush to

—GOOD GOODS FROM GOSHEN—

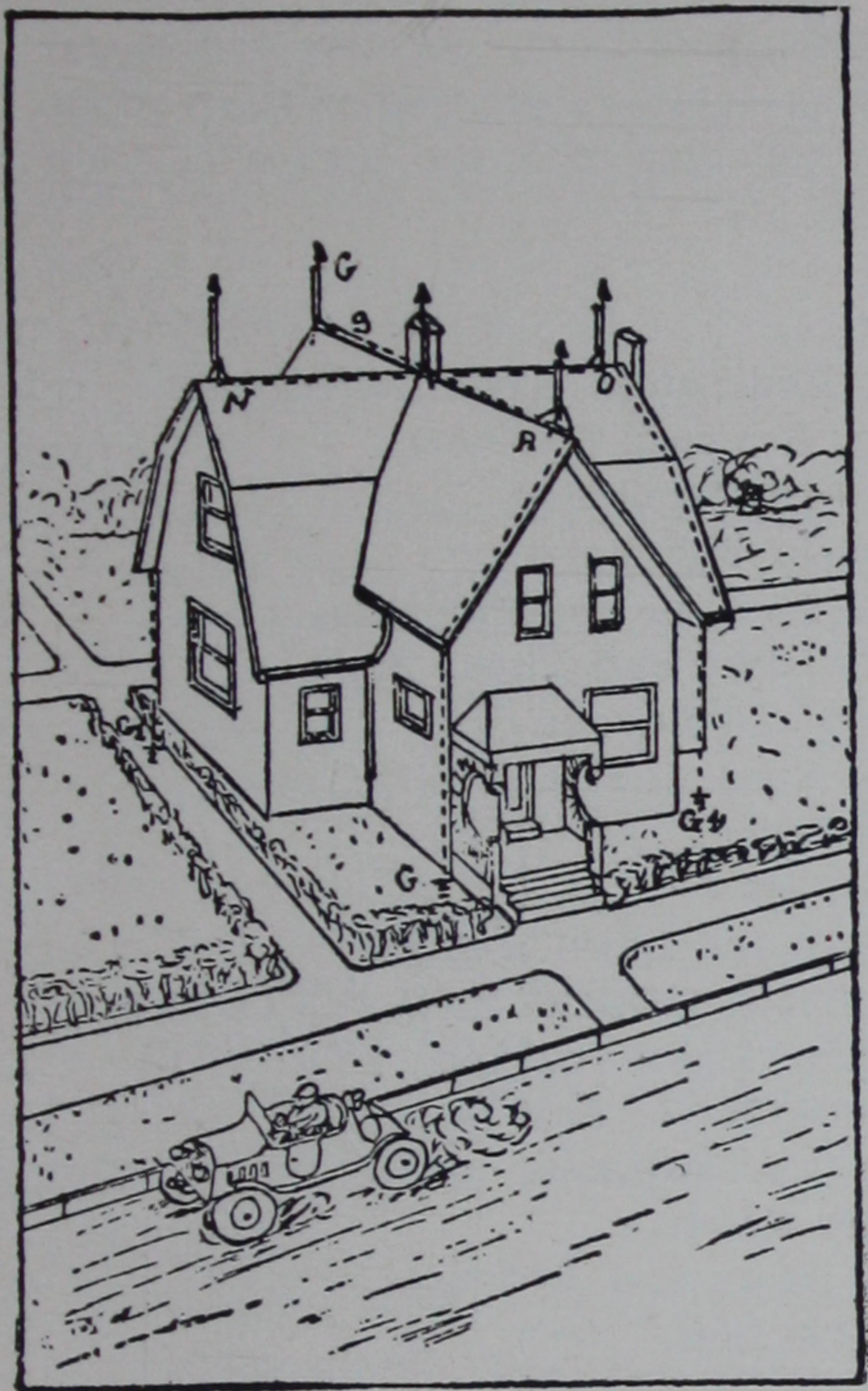


Fig. 3.

place an air terminal on it. This leaves what is known as a "dead end" and should be avoided. This practice of leaving dead ends dates back to the time when it was thought that the function of a lightning rod was only to carry off the "flash" in case the house were struck. In Figure 3 notice that all four gable ends are grounded.

In the main, good installation consists in plenty of ground terminals deep in moist earth, an unbroken circuit of good copper cable, all high points protected by air terminals, (these terminals at intervals of not more than 20 feet, depending on the height of same) and proper connection of metal bodies within the building.

Naturally, the rods will work best if their ground terminals are deep in moist earth. This is very important. Next it is important to have an unbroken circuit of good copper cable over the main ridges of the building, and all high points, such as chimneys, ventilators, etc., protected by air terminals. It is essential also that all metal bodies, such as long door tracks, hay and litter carriers, metal stanchions and drinking fountains, be connected with a few strands of copper wire, to the main line of the lightning rod.

In the drawings on these pages, please note that all ridges projecting from the main line of the building, have extra ground terminals. This is very important. Notice in Figure 2 the third ground terminal at "D." It is not enough merely to run the cable out on this ridge and

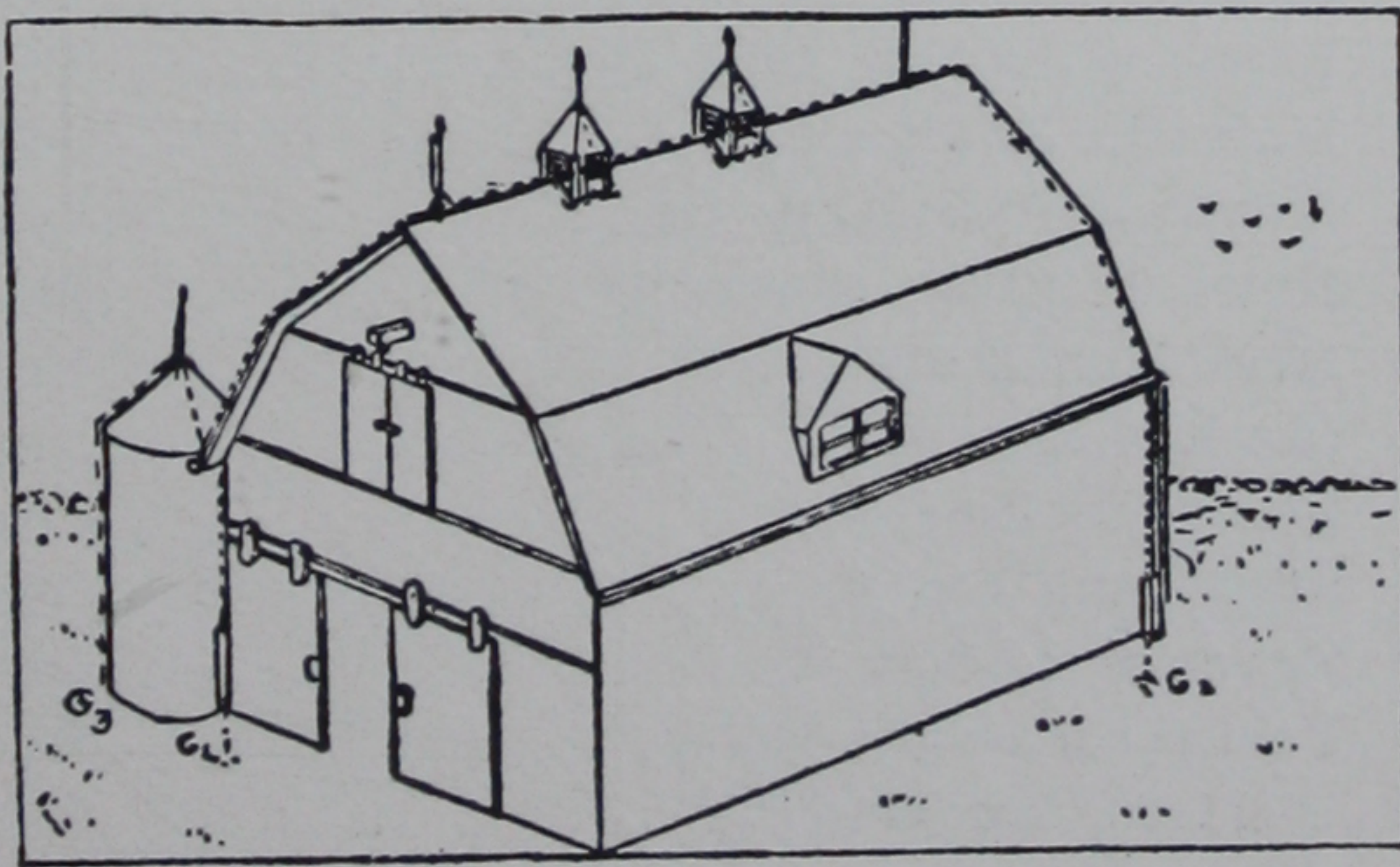


Fig. 4.

Directory of Goshen Manufacturers

With the hope that some benefit may accrue, both to our patrons and to our fellow manufacturers we take pleasure in listing below the names of the various manufacturing companies located in Goshen, together with the names of their products.

American Manufacturing and Engr. Co.	Marl Excavators, Coal Conveyors.
Art Novelty Co.	Piano Benches, Cabinets.
Automatic Pop Corn Machine Co.	Pop Corn Machines.
Banta Manufacturing Co.	Bedroom Furniture.
Burridge Manufacturing Co.	Piano Benches and Cabinets.
Chicago-Detroit Bag Co.	Cotton, Jute and Paper Bags.
Engman-Matthews Range Co.	Stoves and Ranges.
General Manufacturing Co.	Metal Specialties and Silo Tops.
Goshen Auto Top and Trim Co.	Auto Tops.
Goshen Buggy Top Co.	Auto Tops.
Goshen Churn and Ladder Co.	Ladders and Lawn Swings.
GOSHEN LIGHTNING ROD CO.	LIGHTNING RODS AND FIXTURES.
Goshen Manufacturing Co.	Ladders, Lawn Swings.
Goshen Milling Co.	Gerbelle, Never Fail Flours.
Goshen Novelty & Lamp Co.	Furniture Novelties.
Goshen Rubber & Manufacturing Co.	Rubber Goods.
Goshen Sash & Door Co.	Sash, Doors and Millwork.
Goshen Stamping & Tool Co.	Machine Dies.
Goshen Veneer Co.	Panels & Table Tops.
Goshen Woodwork Co.	Interior Woodwork.
Hamilton Iron Works	Structural Iron.
Hastings Manufacturing Co.	Side Cars and Cream Separators.
Hawks Furniture Co.	Bedroom Furniture.
I-XL Furniture Co.	Kitchen Cabinets.
Kelly Foundry & Machine Co.	Grates and Boiler Fronts.
L. A. Harwood	Brass Foundry.
Lewis & Neville Mfg. Co.	Truck Bodies and Auto Tops.
Majestic Engine Co.	Gasoline Engines.
Maywald Furniture Co.	Library Tables.
News Printing Company	Stationers, Printers.
Rock Run Mills	Underwear, Clothing.
Sanders-Egbert Co.	Lumber, Hardwood.
Spohn Medical Co.	Spohn's Distemper Compound.
Star Tank Co.	Galvanized Tanks.
Superior Ladder Co.	Ladders, Lawn Swings.
Thomas-Albright Co.	Hydraulic Presses.
Western Rubber Co.	Rubber Goods.
White Manufacturing Co.	Railway Appliances.
Winter Stamping Co.	Metal Eyelets.

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